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ABSTRACT

A study was conducted to determine the effect of a program of listening skills on the reading comprehension of fourth grade students. After a pretest, an experimental group of 12 boys and 12 girls was selected randomly from four classrooms and a control group was selected with matched pretest scores. The experimental group was taught using "Listening Comprehension Skills: Level B," published by the Alameda County Schools, California, while the control group was involved in language arts activities. Both groups participated in class twice a week in one half hour sessions over a period of eight weeks. The reading comprehension subtest of the California Achievement Test was used as a posttest. Results of the study showed that the reading comprehension of both boys and girls in the experimental group improved significantly through instruction in the "Listening Comprehension Skills" program. (Data tables and a bibliography are appended). (Author/MAI)

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THE EFFECT OF A LISTENING SKILLS PROGRAM ON THE READING COMPREHENSION OF FOURTH GRADE STUDENTS

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A Dissertation Submitted in Partial Fulfillment
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CHAPTER I

BACKGROUND AND PROBLEM

This chapter includes the background which led to this investigation and a description of the problem studied. The scope, limitations and purposes of the study which were tested by the hypothesis are explained. The nature of the study conducted, definitions of terms used in the investigation, and the significance of the study are described.

Background

A problem exists in our society today of students who understand little of what they read. Many young Americans are handicapped by serious reading deficiencies. "The results are augmented by United States census figures showing that 1.4 million Americans cannot read (or write) in any language, and by Health, Education and Welfare Department figures showing that 1 million teen-agers (age 12-17) cannot read at the beginning fourth-grade level." (89:75).

According to the California State Department of Education's 1974-75 Annual Report, the reading achievement of California students was slightly above the national norms for grades two and three. This advantage was not maintained, however, in grades six and twelve. (87:26).

In the district used for research, the number of

students who scored at grade level in total reading achievement in September of 1976 also declined from a high of 63% in first grade, to 52% in second grade, 50% in third grade and 49% in fourth grade. (107:56).

Reading test results as reported by the California Assessment Program in May, 1977, indicated that the district's second and third grade students scored lowest in the area of comprehension. The second graders answered correctly 77.7% of the questions on word identification, 69.5% in vocabulary, and 61% in reading comprehension. The third grade students answered correctly 89.2% of the items on word identification, 86.9% in vocabulary, and 79.4% correct in reading comprehension. (100:2).

In September, 1977, the mean vocabulary score of the 134 fourth graders enrolled at the middle school studied was at the grade equivalent of 3.8 and the mean comprehension score at the grade equivalent of 3.5. (103:4). From these test results it appeared that the area of reading instruction that needed emphasis was reading comprehension.

In the California Annual Report for 1974-75 it was stated that we "have long been aware of the historical flare-up of reading difficulties at the fourth-grade level, where the curriculum places heavier emphasis on reading in content areas." (87:15). "On the whole, students are more competent on lower level comprehension tasks and less skilled on more abstract complex tasks." (87:26). The California State Department of Education report also stated that "in view

of the importance of comprehension skills to effective functioning in later formal schooling, continued development of all comprehension skills should be a principal focus of the elementary school curriculum." (87:20).

"Comprehension difficulties are found in both reading and listening. These are related language skills in that both are receptive skills concerned with the intake of ideas conveyed through language." (54:742). Both are essential areas in the elementary curriculum and in society.

The communication skills are modalities that are integrated by their very nature. In addition, it is possible to see a closer relationship between those receptive skills of listening and reading, and the expressive skills of speaking and writing.

Because listening and reading are so closely integrated the question arises as to whether or not additional instruction in the listening area will affect a student's abilities in the reading area. Oral language skills need to be developed before reading skills can be mastered. It should follow that the various comprehension skills should also be developed on a verbal or listening level before they can be mastered as reading skills. Listening provides the foundation upon which the other language arts are based.

Leeds stated in 1970 that "listening is not a new skill. However, it has only relatively recently received attention as one of the crucial skills involved in reading." (46:50). Elin wrote that "to conclude that listening in the

elementary school curriculum is neglected is, surely, an understatement. It is a most important communications skill and very little is done at any educational level to insure its proper instruction. The momentous impact of listening competence in all our lives demands that we in education place a greater emphasis upon this most important language arts skill." (33:231).

Barker delineated two general sub-types of listening, serious listening and social listening. "Serious listening involves listening with a specific purpose to comprehend, understand, remember, evaluate or criticize. It is the type of listening most frequently engaged in in the classroom and public speaking settings." (1:5). It is the type of listening referred to in this study.

The Problem

Educators have long ignored the impact of listening skills on reading achievement. Most agree that the communication skills of reading, listening, writing, and speaking are closely integrated. Yet, in actual teaching the skills tend to be approached as separate subjects. The basic relationships between these communication modalities need to be stressed in the classroom.

"Since reading and listening are both receptive communication skills, it is reasonable to expect that they would be closely related." (98:748). There is a need to discover methods and materials that will capitalize on the interrelationship of these receptive skills of listening and

reading in helping to improve comprehension.

Most students have had little experience in answering specific questions about a passage on either an oral or written level, and yet that is the behavior expected on most standardized tests of reading comprehension.

Listening skills are usually emphasized at the kindergarten and primary grade level, but as a readiness for reading and learning rather than as an integrated and ongoing part of the curriculum. After the beginning school years, listening skills are usually even more neglected. "Most teachers include as listening activities exercises that are purely auditory discriminations." (36:70). "Listening, one of the basic language arts and part of the linguistic foundation for skill in reading and writing, is being neglected if not totally forgotten in the elementary classrooms of America." (33: 230).

Many students can read most of the words in a passage and put the words together into sentences, but still do poorly in the area of comprehension. It is hypothesized that these students need to be trained in drawing meaning from the printed word. Somehow teachers tend to feel that because a student says each word in a passage correctly, he understands the whole of what he reads. Many teachers introduce the vocabulary that the student is expected to read before the student reads the material; but rarely do they teach the skills of sequencing, finding details, identifying main idea, predicting outcomes, inferring mood and humor, and various other com-

prehension skills on a verbal or listening level before expecting the student to apply them to written material.

Many factors may be involved in the decline of reading comprehension scores as the students advance in the grades. These factors could be related to a possible change in the testing program, to changes in the emphasis of the curriculum, or to many other causes beyond the scope of this study. What is the relationship between listening and reading abilities? Does improvement in listening abilities transfer to improved reading? Will training in a specific listening skills program help improve students' reading comprehension?

Teachers in the unified school district studied use a variety of reading and comprehension oriented materials in their classes. No particular programs, however, are required or even recommended to help students specifically in the area of reading comprehension or listening comprehension. It is essential that some program be identified that would help students in the area of comprehension.

Scope and Limitations

This study was conducted at a fourth through eighth grade middle school and involved approximately thirty-eight percent of the fourth grade population either as participants in the experimental group or in the control group. The experimental group received instruction in all eleven lessons involving the key skills of the Listening Comprehension Skills program and the two review lessons which were present-

ed after lessons five and eleven.

The investigation involved the pre-testing of all 134 fourth grade students at the school, post-testing of students in the experimental and control groups, and a statistical analysis of the results of the testing.

A review of the literature pertaining to listening, its relationship to reading, and its possible effect on reading comprehension was also included in the study.

There are certain limitations to this study. The hypothesis was only tested in one grade level and school. The sample of students in the experimental and control groups was limited. The socio-economic and ethnic composition of the district and the representation of such within the particular school studied may not have been typical of other districts.

The experimental group was instructed in the Listening Comprehension Skills program only twice a week over a period of eight weeks. The administration of the post-test was approximately two and one-half months after that of the pre-test.

The study was not conducted in an effort to compare the listening ability of students with their achievement in reading comprehension. Also, it was not designed to measure growth in listening comprehension skills.

The Purpose

The purpose of this study was to determine the effect of a program of listening comprehension skills using Listen-

ing Comprehension Skills: Level B, published by the Alameda County School District, on the reading comprehension of fourth grade students. (9).

It was hoped that this investigation would help to determine a process which would help students increase their comprehension in reading. The listening skills program used in this study was one program that appeared to have such potential. If this program helped to bring about desirable change, it would be made available to fourth grade teachers in the district, and they would be encouraged to use it as an integral part of their reading and language arts program.

Through the use of a listening program to help increase reading comprehension it was expected that the relationship and interaction between the two communication skills would become evident to teachers such that instruction in the skills would be more likely to be used to the advantage of the students.

Hypothesis

In order to study the effect of the specific listening comprehension skills program the investigator formulated and tested the following hypothesis: There is no significant difference between the mean gain in reading comprehension, measured by the California Achievement Test, of a randomly selected experimental group of fourth graders who received instruction in a specified listening skills program and that of a matched control group who received no additional training in listening skills, as established by a t-test.

Nature of the Study

This study followed the basic design of experimental research. An experimental group was randomly selected from fourth grade students and matched on the basis of like reading comprehension grade equivalent scores on the California Achievement Test with students who were assigned to the control group. The experimental group received instruction in a specified listening skills program twice a week over a period of eight weeks. The control group received regular classroom language arts instruction during the treatment period. Comparison was made of the growth in reading comprehension achieved by these two groups.

Definition of Terms

Throughout this study of the effect of a listening comprehension skills program on reading comprehension a number of terms were frequently used. In order to avoid any confusion resulting from misinterpretation of these terms they are presented here.

Reading:	". . . the process of taking meaning to, in order to secure meaning from, language in print." (6:18).
Listening:	". . . the selective process of attending to, hearing, understanding, and remembering aural symbols." (1:41).
Auding:	". . . the process of hearing, listening to, recognizing, and interpreting the spoken language." (68:586).
Comprehension:	". . . the act of understanding the meaning of printed or spoken language as contrasted with the

	ability to perceive and pronounce words without reference to their meaning." (97:123).
Listening Comprehension:	". . . the understanding of material heard, with respect to the listener's grasp of the meaning of words and phrases, of main ideas, and of supporting or illustrating details." (98:342).
Listening Program:	an organized, published collection of ideas or materials intended to help students increase their abilities to listen for specific purposes.
Experimental Group:	that group of randomly selected students receiving instruction in a specified listening skills program.
Control Group:	that group of students receiving no specialized training in listening comprehension.

Significance of the Study

Growth in the ability to listen critically is not automatically acquired as the student progresses from grade to grade. "Identifying the main idea of a passage or discovering its organization requires a higher level of comprehension than merely grasping important facts." (89:87).

Teachers in the primary grades typically teach listening skills more than do intermediate teachers. Teachers need to be made aware of the importance of teaching listening comprehension skills in the middle grades if, in fact, listening is a factor in reading comprehension.

Many studies have been done to evaluate the relationship between listening and reading. Studies also have evaluated the effect of growth in listening upon reading compre-

hension. Although the results of these studies are not conclusive, the consensus of the research is that there is a positive relationship between listening and reading, and that growth in either area affects the other skill.

Little research has been designed to evaluate the effectiveness of the various listening programs available today. Some of the listening training programs used in documented studies are rarely used today. New language arts programs continually become available, and the needs of the learners change. Educators continually need to evaluate the effectiveness of the numerous educational programs available to them.

No research has been available to determine the effect of the Listening Comprehension Skills program on reading comprehension. This study was concerned with the effectiveness of this particular program in improving reading comprehension. No effort was made to evaluate growth made in listening ability as the result of the program.

The school district utilized in this study was an ethnically integrated district. No school deviated from the district mean by more than ten percent in regard to socioeconomic status, ethnic composition, mobility, and bilingualism. A program that met with success in improving the reading comprehension of fourth graders in one school might meet with a measure of success with other regular fourth grade classes in the district.

CHAPTER II

REVIEW OF LITERATURE

This chapter contains a review of the related literature pertaining to listening comprehension. It is divided into four areas, followed by a brief summary. The first area is an historical perspective of listening research; the second area pertains to the relationship between reading and listening; the third area is concerned with the transfer of listening abilities to reading; and the fourth area includes a review of the effects of programs of listening skills on reading comprehension.

Historical Perspective of Listening

Research in the area of communication is quite extensive when the areas of reading, writing, speaking and listening are all considered. Of these skills, reading is undoubtedly the most researched area and has been so for many years.

"Reading and listening seem to share many characteristics, either as thinking processes or as receptive language processes." (61:255). The whole area of listening is extremely broad, but an area that has been long ignored or minimized.

"Listening has been the neglected part of the lan-

guage arts. When one compares the large volume of research and writing and the practical helps available on instruction in reading to the limited amounts of material on listening or auding, one reason for the classroom neglect of auding is apparent." (17:4).

"Listening has been neglected, not only as an area of instruction in our schools, but also as an area of research. It was not until 1917 that the first research in listening appeared, while 1881 marked the beginning of reading research." (45:602).

The first recorded study in the area of listening appears to be that of Erickson and King in 1917. (34:147-48). This study was conducted to determine "the difference, if any, between the presentation of lesson material visually, that is through silent reading, and the presentation of the same or similar material orally by the teacher." (34:146). Erickson and King concluded that although the superiority of either presentation varied somewhat among the grade level groupings of third through ninth grade students, it appeared that for all grades there was "a distinct advantage in the oral method of presenting a lesson." (34:148).

Many researchers refer to Rankin's 1926 study as the first reported research in the area of listening. It appears to be a far better known study and one more widely considered the first in the field than is the work of Erickson and King. Rankin made a survey of "the frequency of the use of listening, constructed a test of listening, and reported on the

results of a controlled experiment on the effectiveness of the teaching of listening skills." (99:6). He concluded: (1) that listening ability is the most frequently used of the forms of communication; (2) that there are as large individual differences in listening ability as in other characteristics; and (3) that listening ability appears to be as independent of general intelligence and of reading as are other school abilities which require the use of language. (80:848). Rankin recommended that "the development of listening ability receive specific attention in the school commensurate with its importance." (80:848).

Rankin's recommendation could well be made today, more than fifty years later. In spite of the importance of listening, very little attention is given to the improvement of skills in that area.

Dixon reported that interest in listening as a separate skill area began in the late 1930s and the early 1940s. He stated that one of the earliest publications devoted entirely to the subject of listening was published by the National Council of Teachers of English in 1942. (26:285).

Dixon stated:

> It is significant to find that the 1945 and the 1959 editions of the Dictionary of Education neither list nor define listening (or auding). The 1959 edition does define auditory comprehension in brief, general terms. Its definition of language arts specifically names 'reading, speech, spelling and handwriting' but omits any mention of listening. Reading, spelling, writing, and speech have long enjoyed considerable attention, but the forgoing facts reveal, in a modest way, the characteristic neglect of listening as a language art. (26:285).

Nichols wrote that "of seventy-one articles on listening found in psychological and educational literature, one appeared before 1920, eight between 1920 and 1930, twenty between 1930 and 1940, forty-two between 1940 and 1947, and most significantly, thirty-four of the seventy-one appeared in the last five years, or since 1943." (49:154).

In 1948 the separate reports of Landry and Nichols both reported that only three experimental scientific researches had been published in the area of listening comprehension as compared with over 3,000 scientific studies in the area of reading comprehension. (45:602; 10:45).

Many educators have commented on the lack of research in the area of listening. In 1948, Nichols referred to the fact that "The Encyclopedia of Educational Research reports that 1,951 scientific studies relating to reading had been published in the United States and England by 1939. Counting unpublished studies and those published since 1939, the number obviously runs far above the 2,000 figure. Interest is long-standing, dating back to 1880." (50:273). Nichols also reported that "in contrast, apparently only fourteen scientific researches related to classroom listening comprehension have been published; the earliest one dates back only to 1917, with nine of the remainder dated 1933 or later," (50:273).

In referring to major findings in listening between 1950 and 1960, Keller reported that:

> James I. Brown, speaking to a meeting of the Central State Speech Association in 1949, posited the inter-

> esting (and quasifacetious) notion that research in listening was 8,400 studies behind research in reading. His formula was to take the difference in the number of studies done in the two fields and multiplying that amount by three, since time spent in listening appeared to be roughly three times as great as that spent in reading. In a more serious vein he pointed to the fact that the Third Mental Measurements Yearbook devoted 70 pages to available reading tests and none to tests of listening. (44: 29).

Petty emplasized the neglect of research concerned with the teaching of listening skills in the classroom by pointing out that the October, 1961, issue of Elementary English, which reported published language arts research in 1960 made no mention of listening. He noted also, that in the March, 1961, edition of the same journal, in a report of well over two hundred research studies in progress or completed there were only fourteen classified as dealing with listening and just three of those which dealt with the teaching of listening. (52:574).

Nichols reflected a delayed, but increasing interest in listening when he referred in 1948 to the fact that "there is a current awakening in education to the importance of listening comprehension." (49:154).

Schneyer reported that "the first research in listening involving pupils in the elementary school dates back more than fifty years, but not until the 1950s were investigations made of effects of instruction in listening." (57: 369). Duker acknowledged this awakening interest as he wrote that "starting about 1950 material on techniques for teaching listening began to appear in ever increasing volume

in textbooks for both student and teacher, in professional journals, and in popular media addressed to the general public." (99:3).

In 1963 Duker stated that:

> for reasons not readily apparent it is only within the last 20 years that much thought has been given to the importance of listening in the communicative process. Apparently, it was long assumed that listening involved a skill that was universally and automatically possessed by all and could, therefore, be taken completely for granted. (31:744).

In another publication Duker reported that "the research done in the field of communication continues to give a constantly increasing degree of attention to the subject of listening. A substantial proportion of such research is found in doctoral work." (29:106). He referred to the fact that two doctoral theses were written on listening in the decade of the 1920s, five in the 1930s, and eleven in the 1940s. "In the 1950s a great deal of interest was shown by writers of theses in the many aspects of listening lending themselves to research study. Eighty-eight were written during this period and except for 1950, at least six were written each year. The high point was reached in 1950 when fifteen theses on listening were completed. There is no sign of slackening interest as twenty-two theses were completed in the 1960s. . ." (29:106).

In spite of this awakening of interest in listening Taylor stated in 1964 that "there is a surprising dearth of listening improvement studies in the primary grades and in high school." (18:18). Russell (1964) wrote that "although

the importance of listening is acknowledged at every developmental level, the research attack on the existence and nature of listening ability and on ways of learning and improving it has been sporadic, atomistic, and inconclusive." (56:262).

In 1962 when Duker published his first extensive bibliography of professional articles and studies in listening, he listed 725 studies that had been done since 1917. (36:68). His 1964 revision listed 780 annotated references to articles, many of a research nature. (2:221). At the time of the publication of his 1968 revision he reported 1,332 studies, nearly 500 more than those cited in the edition four years earlier. (46:51).

Many academic thesis writers and others have examined this theme of listening; consequently, a sharply increasing amount of attention has been given to instruction in listening at all grade levels since the 1950s. (99:4).

In 1968 Frazier referred to Duker's original bibliography and commented that this amount showed definite progress. "However, when one compares this number with the over 5,000 studies done in reading, it is quite obvious that listening is still the 'neglected stepchild' in the area of communication." (36:68).

Brown (1967) analyzed the speech and listening material in textbooks and reported that "in an examination of 7,744 lessons covering 15,285 individual language arts textbook pages published for grades 3 through 6, it was

found that listening was emphasized in .63 percent of the lessons and .57 percent of the total number of pages." (21: 340).

"Most of the research concerning the various facets of listening has been reported in academic theses. At this time (1969), there are more than 165 doctoral and more than 220 masters theses that have been written on this topic." (98:748).

In the 1971 edition of the Encyclopedia of Education Duker wrote that:

> At first in the 1930s and 1940s, the emphasis in listening instruction tended to be almost exclusively on attentive listening or concentrative listening. . . . This was followed shortly by an increasing emphasis on the reactive aspects of listening. Courteous, reactive, evaluative, and critical listening are presently regarded as even more essential skills that should be taught to and developed by the student. (99:4).
>
> . . . it was not until about 1950 that a large number of academicians and others began to engage in research in listening research. Since then there has been a steady increase in listening research, much of it in the areas of speech and education. (99:6).

Lundsteen wrote in 1970 that:

> It is nothing new that listening and speaking have been considered the base for the other language skills and that auditory discrimination has been considered a crucial base for spelling. However, surveys show that professional concern has not necessarily been reflected in language arts materials for children or for teachers. One recent survey shows that less than 1 percent of the content of texts for children is devoted to lessons on listening. (12:4).

A listening bibliography prepared by Schubach in 1975 contains "approximately 100 resources related to listening

and listening skills at various education levels." (94:1). This list contains many new references in addition to older ones. Progress is being made in listening research, but in relation to its importance that research is still very limited.

The Relationship Between Reading and Listening

It is generally accepted that listening and reading are both aspects of communication, and as such, are related. Studies have been conducted to compare listening and reading and also to establish the superiority of one over the other as a mode of learning. The results of most correlation studies have shown a positive relationship.

A few educators such as Moffett and Brown have felt that there is little, if any, difference between listening and reading comprehension. Moffett wrote that "there is no distinguishable thing as reading comprehension; rather that a general process, comprehension, applies equally to both reading and listening." (15:1). Brown concluded that:

> A 'close' relationship between auding and reading has been remarked repeatedly in the comparative studies. The nature of the relationship has not been adequately explored. Reading is normally superimposed upon an auding foundation. Auding ability seems to set limits upon reading ability. The hypothesis is offered that in normal persons the two modes of linguistic reception are centrally identical and only peripherally disparate. Some advance in linguistic theory and in education for literacy might be derived from a concept of reading as an extension, a specialized refinement of auding. (68:105).

Many educators have emphasized the relationship between listening and reading in their writings. Furness

stated that "the modern academic term 'communication' acknowledges a basic relationship between reading and listening. Both these skills are receptive or impressive; both are concerned with receiving ideas from others." (37:307).

Reddin wrote that "comprehension difficulties are found in both reading and listening. These are related language skills in that both are receptive skills concerned with the intake of ideas conveyed through language. Although each one has independent elements and skills, there seem to be intellectual elements common to both." (54:742).

"Listening and reading obviously are interrelated communication skills. They are similar in that the receiver relies on his background experience and vocabulary to interpret stimuli presented through both oral and written channels. The primary difference between the two communication modes is the communication channel each employs." (85:49). Listening and reading are both receptive areas of language arts and as such share comprehension, evaluation and interpretation.

Those who are concerned with the teaching of reading must take into account the importance of listening in the reading process. They need to understand how reading and listening are interrelated. A number of educators have emphasized the similarities between these communication skills.

Lundsteen wrote that "common skills of thinking and understanding are found in reading and in listening. Both listening and reading make use of the same feelings, back-

ground experiences, concepts, and thought strategies. Processes that go beyond the physical acts of seeing and hearing are similar. A book that gives a child a problem of understanding when he reads it probably gives him the same problem when he listens to it." (11:87).

According to Tinker and McCullough "the processes involved in comprehending printed material are essentially the same as for understanding spoken words, phrases, clauses, sentences, etc. Their perception arouses meanings which lead to comprehension. The meanings aroused by the perceived words depend upon one's whole background of experience, including whatever facility in communication one possesses." (19:199).

Hollingsworth wrote that:

> there are certain common elements that are found between listening and reading. Among these common elements are vocabulary, sentence patterns, organization of ideas, and adjustment to the function of language. . . . Positive relationships then between listening and reading would be expected because of the common elements that are found in listening as well as reading. (41:63).

"Listening provides the foundation on which all other language arts skills are based. In the developmental scheme, listening precedes speaking, reading, and writing. The student who cannot listen effectively cannot learn effectively. It is as simple as that." (91:4).

One of the first studies made in the area of listening was by Rankin in 1926. (80:848). Among other factors he attempted to discover the relationship between listening ability and reading. His research found a low correlation

of .48 between reading and listening.

Many researchers have considered reading and listening as separate skills and have studied the relationship between them. This relationship is one of the most studied concepts concerning listening.

Hampleman's study in 1955 compared listening comprehension ability with reading comprehension ability of fourth and sixth grade pupils as this relationship was affected, among other factors, by differences in grade level, difficulty of material and sex. (71:1757). He concluded that:

> sixth grade pupils are significantly superior to fourth grade pupils in both listening and reading comprehension. Listening comprehension is significantly superior to reading comprehension for fourth grade pupils, sixth grade pupils, boys and girls. . . . For fourth and sixth grade pupils, listening comprehension shows a greater superiority over reading comprehension with easy material than with hard material. Boys are superior to girls in comprehending the hard material in this study. (71: 1758).

Research by Durrell determined comparisons between listening comprehension and reading comprehension at different grade levels. He made direct raw score comparisons between listening and reading by using the same language comprehension test designed and equated for use as both a listening test and a reading test. In reporting his results Durrell expressed the relationship between listening and reading in grade equivalent scores. His results showed listening to be 1.6 years above reading at grade 1, 1.1 above in grade 3, .7 above in grade 5, .4 above in grade 7, and .0 above in grade 8. (32:458).

Durrell stated that:

> In all primary grades, listening vocabulary is much superior to reading vocabulary. Listening is a broader channel for acquiring information than is reading at this level, since reading skills are immature. At these levels, reading comprehension is not likely to be handicapped by low listening comprehension, since most reading instruction is within the pupil's speaking vocabulary. At grade five, reading comprehension reaches ninety percent of listening comprehension; the two abilities are equal in grade eight. (32:457).

There have been many studies that have shown significant correlations between listening and reading comprehension. Another early study in this area was that of Goldstein in 1940. The main emphasis in his research was concerned with comprehension and the speed of presentation in listening and reading. However, he was among the first to compare listening and reading comprehension, obtaining a correlation of .78. (41:63). Research since that time has corroborated his findings.

Other studies done by Pratt (1956), Baldauf (1960), Bonner (1960), Trivette (1961), Many (1965), Fawcett (1966), Winter (1966), and Markert (1974) have all shown significant correlations between listening comprehension and reading comprehension. (53:318; 65:2979; 67:2167-68; 60:277; 48: 112-13; 35:475; 63:569-70; 90:29-31).

Pratt also studied the relationship between listening and reading at the elementary level. The experimental group was taught five lessons which were "designed to develop an understanding of important listening skills and proficiency in the use of them. New skills were introduced each

week during the five week experimental period, and application of these skills was stressed when the need for them occurred in the regular classroom instruction." (53:316). His results showed an existing relationship of .64 between reading and listening as measured by scores on the Iowa Silent Reading Test and performance on a listening test constructed as part of his experimental design. (53:318).

Baldauf conducted a study to determine, among other questions, the magnitude of the relationship between listening and school achievement. An analysis of his results indicated that the coefficients of correlation between the scores of the achievement battery ranged from .30 to .57, but was .82 with the total test. (65:2979). He concluded that "there is a strong relationship between listening and school achievement." (65:2980).

The objectives of Bonner's study included discovering the relationship of listening ability to reading ability. She used the STEP Listening Test to gather data on listening comprehension and the Stanford Achievement Test, form L, for reading comprehension. Her findings showed a correlation between listening and reading comprehension of .57 for the fourth grade, .66 for the fifth grade, and .53 for the sixth grade. The correlations were significant at the one percent level. (67:2167).

Trivette's study was conducted to determine whether or not definite training in listening for the main idea, details, and to make inferences affects the child's ability

to listen for these specific purposes. As a subsidiary study, and to facilitate the achievement of the primary purpose of the study, she also attempted to determine the relationship between reading level and the scores on the Listening Comprehension Test. Her results showed a relationship between reading levels from the Stanford Achievement Test and the scores on the Listening Comprehension Test, or a coefficient of correlation of .61. (60:277). "The .61 coefficient of correlation between students' reading grade levels . . . was significant, indicating a parallel relationship between reading skills and listening skills." (60:277).

Many conducted his study for the purpose of attempting to determine whether there was any significant superiority in the visual mode of presentation over the auditory mode. He administered two separate tests, a listening test and a reading test. His results showed a "statistical advantage . . . in favor of the visual mode of presentation (reading) over the aural mode (listening). This result was statistically significant at the 1 per cent level." (48:112).

Fawcett's study was designed to determine the effectiveness of teaching listening skills to fourth, fifth and sixth grade students and to investigate the relationships of selected variables to listening ability. She reported a correlation of .585 existing between listening ability and reading comprehension as measured by the Iowa Basic Skills Test. "The results obtained in this study show a correlation significant at the one percent level." (35:475).

Winter's research was conducted to find additional evidence concerning, among other factors, the relationship between listening and reading comprehension and vocabulary as measured by achievement tests. She used as her subjects five hundred sixty-three students from fourth, fifth and sixth grade classrooms. Her study correlated the results from the STEP Listening Comprehension Test, form 4Z, with the SRA Achievement Test. The results showed a moderate but highly significant relationship between listening and reading comprehension. The .53 coefficient of correlation was significant at the .01 level of confidence for all grades involved in the study. (63:570).

Markert's study examined the relationship between reading comprehension and listening comprehension among second graders. One form of the Gates-MacGinitie Reading Test was administered and a revised alternate form of the same test measured listening comprehension. The difference between the means of the highest third in reading ability was 1.389, which was not significant. "The *t* value secured in comparing the differences between means of the lowest third in reading ability was 14.624. This difference was significant at the .01 level of confidence." (90:31).

Additional studies have examined differing relationships between listening and reading. A study by Swalm (1972) differentiated between oral and silent reading when comparing reading comprehension with listening comprehension. His results showed that there were no significant differ-

ences in learning at the third and fourth grade levels. However, at the second grade level the oral reading resulted in higher comprehension than either silent reading or listening. (58:113-15).

After reviewing numerous research studies, Hampleman (1958) made a number of tentative conclusions. He concluded that, among other factors, "listening comprehension seems to be definitely superior to reading comprehension in Grades 3, 4, and 5. Reading comprehension seems to be only slightly superior to listening comprehension beginning approximately in Grade 7 and continuing up to the adult level. . . . Listening comprehension is superior to reading comprehension with easy material. Reading is superior to listening with difficult material." (39:50).

In 1964 Duker listed twenty-three major studies completed between 1926 and 1961 that were concerned with the relationship between reading and listening. He reported coefficients of correlation ranging from .45 to .70 with a mean of the reported coefficients of correlation at .59. All studies reported showed a strong positive relationship between listening and reading. (30:322).

After evaluating a number of correlation studies in 1966, Ruddell concluded that the correlations from the majority of the studies suggested that factors in listening comprehension accounted for approximately twenty-five to sixty percent of the variance in the reading comprehension scores, depending on the types of listening and reading skills mea-

sured. (55:493).

In 1970, Wilkinson summarized the results of specific studies correlating reading comprehension tests with those of listening comprehension in the primary school. He obtained correlations ranging from .5 to .6. (12:142).

Thompson (1971) reported that "one of the justifications for teaching the listening skills is that listening comprehension is somewhat related to intelligence and reading ability even though they are not synonymous. Studies show high correlation between listening comprehension and reading comprehension in the early school years. Superior gains in reading achievement have resulted with pupils who had listening training. By the time of junior high school, children get more complete and accurate meaning and information from reading than listening." (59:263).

In their writings many educators have emphasized the interrelationship of the communication skills of listening and reading. One of the most researched areas of listening involves this relationship between listening and reading.

Although Baldauf's research showed correlation scores on various subtests of the achievement battern that ranged from .30 to .58, his results on the total test showed a correlation of .82. Rankin's study in 1926 was one of the first in the area of listening and showed a low correlation of .48. Another landmark study in the field was made by Goldstein in 1940. His results showed a high correlation of .78. Other reported studies, with the exception of that

of Baldauf, have shown correlations that range between those found in these two early studies. Studies evaluated by Duker (1964) ranged from .45 to .70, with a mean of .59. (30:322). Those summarized by Wilkinson (1970) fell between .5 and .6. (62:142).

The Transfer of Listening Abilities to Reading

Because of the similarity between the receptive skills of listening and reading most educators tend to assume that the teaching of one skill tends to improve the other. This assumption is based on sound principles of transfer of training and is supported by many studies. However, some educators feel that the results of such studies are inconclusive.

Duker writes that both reading and listening are, of course, receptive skills of communication and:

> . . . both involve the need to perceive, interpret, and react to verbal materials. When fully developed, both skills enable the individual to grasp the general outline or framework of the material received, recognize details, detect biases in emotion-laden matter, determine motive on the part of the transmitters of the message, interpret meaning manifest between the lines, enrich the material received by supplementing it with what is already known, retain the essential aspects of the message and react to the message. Discovery of these common factors has led to a good deal of research to find out whether instruction in one of these skills will increase the efficiency of the other. (31:746).

Furness stated in 1957 that "since listening and reading are intimately related, it follows that improvement in one may result in improvement in the other." (37:307). Cooper (1966) wrote that "if one can learn to improve in

comprehension of the materials he listens to or to materials read to him from a book, one should be able to understand similar materials by reading to himself. If he learns to be more attentive when listening to oral expressions, the same skill should transfer to the art of reading to himself." (22:432).

In 1959 Dow listed approximately eighteen factors of reading comprehension that seemed significantly similar to listening comprehension to permit integration or transfer. (27:125). In his Listening Aids Through the Grades Russell listed ten likenesses between reading and auding. His book contains simple listening activities that "correspond roughly to the pre-reading activities of the reading readiness period and are designed, indeed, to help prepare the child for reading as well as for effective listening and auding." (17:15).

In an attempt to help increase reading comprehension Cunningham (1975) developed listening-reading transfer lessons. "In a listening-reading transfer lesson, the students learn that the kinds of things they can do after listening to a passage are the same kind of things they are asked to do after reading a passage. To achieve this, the teacher plans two parallel lessons. In the first, the students listen and respond in certain ways; immediately following, they read and respond in the same ways." (23:170).

Schneyer reported that "the effect of listening instruction on reading skills has been of interest since the early 1950s, but the findings have been inconclusive." (57:

369). In 1964, Duker reviewed nineteen studies which dealt with the effect of instruction in either reading or listening skills on the other. He concluded that "the results are not entirely consistent, but many studies show that instruction in listening skills leads to improved reading." (30:323).

After reviewing seventeen studies, Lundsteen concluded that there was some evidence that instruction in listening may bring improvement in reading skill. (12:7). Twelve of the studies which covered almost all grade and intelligence levels implied that listening instruction may have enhanced reading instruction, especially at first grade level. "Five studies, however, one of which was with retarded children and one of doubtful design, implied that listening instruction did not improve reading skills." (12:7-8).

A number of studies have been conducted on the assumption that because listening and reading share a common language and cognitive content base, effective training in listening, or auding, comprehension will transfer to reading comprehension.

Much of the research purporting to study this transfer actually does not. To state that growth made in listening is transferred to reading, one must first ascertain that there has, in fact, been growth in listening. Many of the studies omit a measure for obtaining evidence of growth in the area of listening. Without these data it is difficult to determine what transfer has taken place or whether or not the training in listening was ineffectual in producing a

significant change.

Of thirty-one auding-reading transfer studies evaluated by Sticht, Beck, Hauke, Kleiman and James (1974) only twelve were determined to contain the necessary data to evaluate whether in fact transfer had actually occurred. Of these twelve studies that incorporated a post-training measure into their design, ten reported a significant improvement in reading ability paralleling the improvement in auding ability. (95:87-88). The remaining two studies failed to support the hypothesis. Neither study was available for full evaluation and, therefore, could not be studied to determine why transfer did not take place. (95:88).

Transfer studies conducted by Hill (1961), Merson (1961), Fledderjohann (1965), Skiffington (1965), Kellogg (1966), and Thorn (1968) have shown significant gains in listening comprehension and the subsequent transfer of such gains to reading comprehension. (72:3094; 78:3120; 70:5228; 83:5308; 8:109-10; 96:10).

Livingston (1974) studied this transfer in regard to low achievers. Her results showed significant gains were made for the average ability group in both listening comprehension and reading comprehension. There was, however, no significant difference in either area for students of low ability or above average ability. (76:6367A).

Devine (1968) stated that the belief that instruction in listening affects pupil competence in reading is not supported by recent studies. In an evaluation of three

studies where transfer was not substantiated, he concluded that "it is still not known whether instruction in specific listening skills . . . affects the development of related reading skills . . ." (25:347).

Research by Binzer (1974) showed that direct instruction in listening led to higher listening comprehension for the average and above-average students in the fall semester of the first grade, but not for the below-average student. These gains in listening comprehension did not lead, however, to higher achievement in reading comprehension. (66:938A).

Results obtained by Madden (1959) were inconclusive. Growth "may have" occurred in reading comprehension as a result of the listening training program, but no significant gains were reported in listening. (77:2178-79).

Hollingsworth (1964) found no significant difference in either listening or reading comprehension in eighth grade students as a result of ten weeks of training in two separate commercial listening programs. (73:3913).

Although some studies showed little or no transfer of gains from listening comprehension to reading comprehension, the many studies reviewed appeared to support the theory that transfer does, in reality, seem to occur.

Most of the educators who wrote that the results of transfer studies were inconclusive have based their evaluations on the fact that much research purporting to measure the transfer of listening abilities to reading have not adequately established that growth in listening did, in fact, take place.

Effects of Programs of Listening Skills on Reading Comprehension

Listening is one area that teachers tend to assume needs little instruction. Those teachers who do include listening as an integral part of their language arts program often do so by the inclusion of listening activities that are predominately tasks of auditory discrimination. There are, however, many materials and programs available that are intended to increase listening comprehension. Various studies have evaluated the effect of such programs of listening skills on reading comprehension.

Duker concluded in 1963 that "listening can and certainly should be taught at all levels of the educational process." (31:744). The activities of listening and reading are related, and each in its own right deserves and requires more than casual attention. "Teachers should take advantage of the benefits afforded by the integration of language skills, but at the same time they should recognize that each skill will be incompletely dealt with unless concentrated attention is given it." (7:161).

Textbooks designed for the elementary school in the language arts include lessons designed to develop and improve listening skills. Specialized booklets and curriculum bulletins are giving increased attention to listening. But, many of the professional texts include only mention, or at most one section, devoted to listening. Most of the sources that include listening are directed toward readiness activities and the development of auditory perception skills.

"There are indications of definite progress in the field of teaching listening skills, but how much of this has filtered into actual classroom procedures is debatable." (36:68). "Many of the professional texts contained references to listening in the index of the book, but few devoted any reasonable space to this topic. . . . Most of the references were directed to readiness activities and the development of auditory skills needed to enable a child to become a 'successful' reader." (46:50).

Petty concluded that:

> Reading and listening can take place in many situations and can be done for many purposes. The closeness of their ties has been shown over and over again by the similarity of activities and exercises designed to teach their skills. In fact, since listening has begun to receive instructional attention, many reading series provide listening activities and suggest that teaching listening skills is one way to improve reading skills. (16:141).

It is Bursak's opinion that "because the listening situation does lend itself to thorough going discussion and analysis of the thinking that is going on in responding to the material listened to, and can include both direction for thinking and immediate feedback of the products of thinking by the instructor leading the discussion, instruction in listening makes a logical starting point for the development of the same comprehension skills needed in reading." (86:2-3).

Allison (1971) investigated "the effect of reinforcement activities combined with previously taught listening skills upon both standardized reading and listening test scores." (64:5464A). He concluded that "there is a sugges-

tion that this same treatment discussion method might be used as a beneficial supplement to the reading program." (64:5464A).

The comparative effectiveness of correlated listening-reading and reading-only comprehension lessons was studied by Bursak (1971) using high school retarded readers with varying sensory modality learning preferences. She compared two matched groups over a one-semester period. One group was taught using both aural and visual methods and the other, using a visual approach only. The groups used the same materials and were taught the same comprehension skills. "Results from a standardized reading test showed that when sensory learning modality preference was not a variable, a correlated listening-reading instructional approach was more effective than a reading-only approach." (86:1).

Lundsteen stated in 1971 that "once the child has adequate reading skill, the two receptive processes (reading and listening) should be mutually supportive, development in one enhancing development in the other. There is some evidence that training operates that way." (12:10).

Research by Marsden (1951), Lewis (1951), Thorn (1968), Valkenburg (1968), Nye (1969), Dewar (1972), Schulwitz (1973), and Livingston (1974) have shown significant growth in reading achievement and reading comprehension through the use of a variety of specific programs of listening. (54:742-43; 47:82-83; 96:10; 84:1692A; 79:1079A; 69:5530A; 82:5496A; 76:6367A).

Marsden conducted his study to determine the effect of practice in listening to decide upon the main idea, find details, and draw conclusions. He adapted lessons from the Gates-Pearson Practice Lessons in Reading and used one lesson a week in each of the three skills with an experimental group of fifth and sixth grade pupils. Following the eight week series of special lessons both the experimental and control groups were retested on the Gates Basic Reading Test. Analysis revealed that significant gains were made by the experimental group in all three skill areas as well as on total reading scores. (54:742-43).

Lewis studied the effect of thirty lessons, each consisting of three exercises from the Gates-Pearson Practice Lessons in Reading on students in the fourth, fifth, and sixth grades. Pre- and post-testing with the Nelson Silent Reading Test showed the experimental group significantly superior to the control group when tested immediately following the series of lessons. No significant differences were found, however, on the delayed recall test. (47:82-83).

The purpose of Thorn's study was to explore the effects of listening instruction on pupils' achievement at the first grade level, and to assess the extent to which such instruction in listening affected achievement in reading comprehension. She developed a basal reading program adapted to use with aurally presented material. The instructional program included two relatively short sessions each week. When the reading achievement of the experimental group was compared

to that of the control group, the obtained F ratio was significant at the .06 level. She concluded that "a program of instruction in listening, under the conditions of this study, has a strong positive effect on reading achievement, although it does not produce highly significant improvement in reading comprehension." (96:11).

Valkenburg's study "was undertaken to explore the 'listening-socio-cultural' area as well as to provide more information about the interrelationships between listening and reading at different grade levels. The findings indicated that a series of listening lessons based on Russell and Russell's book Listening Aids Through the Grades and Educational Developmental Laboratories' Listen and Think Program were effective in increasing listening comprehension and reading comprehension. It was also noted that the students classified as 'low socio-economic status' gained more from the listening experience than did the 'high socio-economic status' students." (84:1692A).

Nye compared groups of second graders using tapes and corresponding stories with and without the use of markers in fifteen minute sessions for a period of six weeks. She found that significant gains took place for every achievement level in each experimental group. The group listening to the tapes and reading the stories at the same time without using markers produced significantly higher gains than the other groups in reading comprehension. Low ability students within that group produced significantly higher scores in

both silent reading vocabulary and reading comprehension as compared with the high ability group. In the mid-ability group the group using both tapes and markers made significant gains in reading comprehension over students who read the stories without the use of tapes or markers. (79:1079A).

Dewar's study measured the effect of lessons from A Skills Oriented Curriculum to Teach Language by Metfessel and Hammond. The results showed that the skills program had a positive effect on scores in reading achievement and listening skills. It was particularly effective with lower and middle class students. (69:5530A).

Schulwitz used "specific instruction strategies in listening" and non-specific listening in her study with first grade students. (82:5496A). She concluded that some type of listening instruction was superior to no listening instruction. The listening programs utilized produced significant gains in reading comprehension for all socio-economic levels tested.

Livingston utilized a planned, regularly scheduled, taped listening program with sixth grade students. Significant growth was made in listening achievement and reading achievement with students of average ability. No significant difference was made, however, in either listening or reading achievement with students of below average or above average ability. (76:6367A).

A study by Allison in 1971 investigated the effect of reinforcement activities combined with previously taught

listening skills. He concluded that "there is a suggestion that this same treatment discussion method might be used as a beneficial supplement to the reading program." (64:5464A).

After evaluating the results of a ninth grade program in critical listening-critical reading in 1964, Devine concluded that:

> instruction in critical reading skills becomes more effective when attention is focused on the listening dimension of reading. Students seem to learn reading skills more efficiently when these skills are taught in conjunction with their corresponding listening skills. There is reason to believe that, as reading teachers, we might explore further the possibilities of exploiting reading's neglected dimension: listening. (24:120).

In a 1967 study to design and analyze the effect of a first grade instructional program upon achievement in listening and reading, Kellogg found that the boys in the structured literature listening program made significantly greater achievement in specific measures of listening and in all tested measures of reading over boys in the unstructured, controlled literature listening program. He found no significant difference in achievement for the girls in the study. (74:395A).

Gold summarized her 1975 article on teaching listening by stating:

> Listening is recognized to be the first and the most basic of the four major areas of language development. There has been much written, both on a theoretical and on a research level, concerning instruction in listening skills and whether children are benefitted by it. Although no consensus was reached, there is sufficient evidence to indicate that a child can learn to listen more adequately and the effect on other achievement is significant. The challenge is placed in the hands of the classroom teacher who can make a contribution in this area. (38:422).

Contrary to this body of research that shows positive effects of listening programs on reading comprehension, a number of studies have shown no significant improvement in reading comprehension as a result of specific programs of listening skills. Among these studies are those by Merson (1961), Hollingsworth (1964), and Leeds (1969). (78:3120; 73:3913; 75:298A).

Merson used a definite program of forty-five planned listening lessons and found that there was significant growth made in listening comprehension, but that the growth was not experienced in scores of reading vocabulary and reading comprehension. (78:3120).

In 1964 Hollingsworth evaluated the effects of a modified Educational Developmental Laboratories' Listen and Read Program and a modified Science Research Associates' Listening Skill Builders Program on listening comprehension and reading achievement. After ten weeks the eighth graders in the study showed no significant difference in reading achievement with either program. Testing showed also that listening comprehension was not affected by either program. (43:21).

The following year Hollingsworth evaluated the effect of Educational Developmental Laboratories' Listen and Read Program on listening achievement and reading comprehension. The experimental group of fifth graders were trained with the program three days a week for a period of ten weeks. He concluded that the program did not significantly

change reading achievement, listening comprehension or study skills development. (42:21 and 73:3913).

Using fourteen half-hour lessons on tape designed to develop skills of reading and thinking, Leeds evaluated the effect of a specific listening skills program on reading and listening comprehension. The results were negative. The mean of the pre-test was higher than either that of the post-test or a retention test given five weeks after the administration of the post-test. (75:298A).

Although the results of some studies have shown little or no growth in reading as a result of programs of listening comprehension, a large percentage of the research shows that significant gains have been made in the area of reading comprehension through the use of various programs of listening.

Summary

Literature in the field of listening indicates that educators have long ignored the importance of listening as it affects learning, and especially as it affects reading comprehension. Although the 1950s seem to have brought about growth in research and interest in listening, and in spite of the fact that it is receiving far more attention today, it still remains a neglected area in our schools.

Many studies have reported correlations between reading and listening. Results tend to be influenced by the age of the students and the difficulty of the material, with listening being a more effective mode of learning at the

earlier grades with easier material and reading being a more efficient mode for older students with more difficult material.

The literature on listening and its effects on reading comprehension indicate that listening does, in fact, positively affect reading. The research shows that reading abilities are usually improved through improvement in listening abilities.

The majority of the studies using specific programs of listening to help improve students' reading comprehension has shown positive results. Research in this area is limited, but those programs tested by these studies tend to result in significant growth in reading comprehension. It is in this last category that this current research belongs--evaluating the effects of a specific program of listening comprehension on the reading comprehension of fourth grade students.

CHAPTER III

DESIGN OF THE STUDY

This chapter consists of an explanation of the study undertaken to test the hypothesis that there was no significant difference between the mean gain in reading comprehension of an experimental group of fourth grade students and that of a matched control group. It includes descriptions of the community, the school population, the research sample, and the control group that were used in the study. The testing instrument used to evaluate growth in reading and the listening program utilized are also described along with an explanation of the method of analysis and the treatment of variables.

Community Population

The district used for research purposes in this study was located in southern Alameda County in California and included six primary, three middle, and one high school. The district drew from a community of predominately middle class families and was one of the few districts in the state that has continued to grow in population.

The California Assessment Program, using information derived from the May, 1977, testing of all second and third graders, indicated that the socio-economic index of the dis-

trict was higher than 61% of all schools in California. Pupil mobility was higher than 59% of all the districts in the state, and the percentage of bilingual students in the district was higher than 76% of the schools in the state. (100:1).

In October, 1977, the district had an enrollment of 8917 students in grades kindergarten through twelve. The ethnic composition of the student population was 4% Asian, 10% Filipino, 8.4% black, 49.7% white, and 27.9% Hispanic. (111:1).

School Population

The students selected for this study were fourth graders who were attending a fourth through eighth grade middle school. In mid-November of 1977 the school had an enrollment of 1180 students in the five grades, with 134 of the students enrolled in the fourth grade. (112:1-2). The ethnic composition of the school population was 6.5% Asian, 8.6% Filipino, 11.9% black, 53.7% white, and 19.3% Hispanic. The make-up of the fourth grade classes was 5.6% Asian, 9.2% Filipino, 16.3% black, 55.4% white, and 13.5% Hispanic. (112:1-2). The fourth grade had fewer students of Hispanic background than were represented in the rest of the school population because the district received federal funding for bilingual programs which, at the fourth grade level, were held at three other school sites in the district. Many Spanish speaking fourth graders were enrolled in these programs.

The Research Sample

In each of the four fourth grade classes the students were assigned sequential numbers based on their placement on the original class enrollment lists. The numbers representing the students in each classroom were considred separately. Using a table of random numbers, the investigator selected three girls and three boys from each class to comprise the experimental group. (14:4).

The students in the study were selected equally from the four classrooms, but were statistically treated as one experimental group of twenty-four students.

The Control Group

The control group was selected after the initial testing with the reading comprehension sub-test of the California Achievement Test. A student who achieved an equal grade equivalent score was selected and matched with each student in the experimental group. These students were then assigned to the control group. In six cases there were no other students with the same score to use as direct matches. Students were then selected whose scores differed minimally and whose combined scores equaled the combined scores of those unmatched students in the experimental group. The scores of students in the experimental group and the control group are shown in table 5 of appendix A.

The experimental and the control groups were also matched to include both six students from each of the four classes and a total of twelve boys and twelve girls.

The total months of achievement in reading comprehension was 89.3 for both groups with a mean grade equivalent score of 3.72 as shown in table 5 in appendix A. The ethnic composition of both groups was basically similar and reflected the make-up of the school population. (See table 6 in appendix A).

Description of the Testing Instrument

The reading comprehension test utilized for this investigation was the reading comprehension sub-test of the California Achievement Test, form 14C, 1977 edition, published by CTB/McGraw-Hill. A sample of this test is included in appendix B. The complete test had been selected and mandated by the district to report achievement in the basic academic areas. Since the district was using the California Achievement Test to measure growth in reading and other subjects, it was felt that the reading comprehension sub-test would be a good indicator within the district framework of whether or not growth had been made in reading comprehension as a result of the experimental program.

Because there was a period of approximately two and one-half months between the pre- and post-testing, the same form of the test was administered. By utilizing the same form of the testing instrument for both pre- and post-testing possible discrepancies in measurement between different forms of the test were avoided. If there were any learning effect as the result of the first testing, it would be the same for students in both the experimental and the control group.

The standardization of the 1977 edition of the California Achievement Test was designed to provide norms for fall and spring testing. "A stratified random-sampling procedure was used to select schools from diverse geographic areas, socio-economic levels, and ethnic backgrounds." (102:1). The sample comprised approximately 200,000 students from kindergarten through the twelfth grade.

According to CTB/McGraw-Hill the reliability coefficient for the California Achievement Test, form 14C, was .91 for the reading comprehension sub-test as established by the Kuder-Richardson formula 20. (108). For fall norms for the fourth grade, expressed in grade equivalent scores, the mean for the reading comprehension sub-test of form 14C was 4.5, the standard deviation was 1.89, and the standard error of measurement was .55. (108). As of January 1978 no information was available on the validity of the instrument.

Description of the Listening Program

The listening skills program used in this study was Listening Comprehension Skills: Level B, developed by Len L. Lasnik, Director of Programs in Oral Communication, Title III, ESEA and published by the Alameda County Schools Department, Hayward, California. (9).

The Listening Comprehension Skills program was originally developed as part of the Programs in Oral Communication which were approved and funded in 1967 by the California State Department of Education and the U.S. Office of Education

through Title III, ESEA P.L. 89-10. (109:1). Involved in the Programs in Oral Communication were three projects: "Releasing the Reticent," which explored ways to help the quiet, shy student to feel more secure and to assume risk taking to a greater extent than before; the "Auditory Perception Project," which focused on assisting the student to attend to designated speech signals, to follow a spoken message over a span of time, to differentiate and discriminate between two signals involving stress and intonation, and to retain messages of varying lengths and follow directions; and the "Listening Comprehension Skills Project."

The "Listening Comprehension Skills Project" involved the development of the Listening Comprehension Skills program which identifies and provides practice on the following specific listening skills:

1. Inferring connotative word meanings. Passages are presented that have unfamiliar words that can be informally defined through the use of the context;

2. Identifying mood, humor, etc. Passages are of the exposition, narration, prose type, and students listen to determine how the writer wants them to feel;

3. Providing examples by details. The student is given the main idea of a passage, then hears the selection and answers a question concerning something not heard in the passage;

4. Reinstating sequence of ideas. The student listens to a passage containing a sequence of ideas and then

reproduces the sequence;

5. Identifying the main idea. The student listens to a reasonably short passage and then states in his own words the general principle or principles being communicated;

6. Predicting sequences of thought. A sequence of ideas is presented, without a completion or a conclusion, and the student is asked to determine the type of idea the speaker will next present;

7. Inferring the speaker's purpose. The student listens to passages which are mainly of the persuasive sort and is asked to determine what the speaker intends for him to do;

8. Applying standards to judge persuasion. The student listens to passages of the persuasive sort and is asked to identify the class of device used by the speaker in persuasion;

9. Inferring main ideas from specifics. The student listens to a passage which is terminated before the main idea is presented and is asked to determine how the specific ideas could be summarized as a main idea;

10. Judging logical validity. The student listens to passages which are largely of an expository style, including persuasions, and is then asked to determine the logical conclusion; and

11. Identifying sequence inconsistencies or ambiguities. The passages are constructed to contain inconsistencies in the sequence of ideas, and the student is asked to

determine the inconsistency. (109:5-7).

In addition to the eleven specific lessons there are two review lessons which are used following lessons five and eleven. These review lessons provide one passage on each of the skills that have been presented in the program.

The Listening Comprehension Skills program was written on five levels and was intended for various grade level groupings. The level utilized in this study is level B, which was intended for the fourth through sixth grades.

The program is available as a taped program and in a manual form with printed scripts to be read to students. It is suggested that the teacher not use the tapes exclusively, but alternate the taped voice with teacher reading, since some negative reaction had been received concerning the unnaturalness of the voice on the taped lessons. The investigator felt that classroom teachers would be more willing to use the program if it were flexible, and that students would prefer to listen and react to the teacher's voice rather than to a taped program. For these reasons it was decided to evaluate the program as presented with the investigator reading the scripts, rather than using the taped version. The modification of the program presentation for the purpose of this investigation also included copies of the script for the students to follow while the teacher read the passages to them.

Each lesson in the program consisted of four components: (1) Practice exercise consisting of instructions

and example, (2) Inquiry Session I (answer identified), (3) Inquiry Session II (open-ended), and (4) Assessment (pupils use answer sheets for the component).

The program utilized this format for each of the two lessons on each listening skill. For the purpose of this investigation both lessons on a listening skill were presented at the same session. The modified program utilized discussion for each of the four components in the eleven specific lessons and answer sheets followed by discussion for each of the two review lessons.

Procedure

In late September, 1977, the reading comprehension sub-test of the California Achievement Test, form 14C, was administered to all fourth grade students in the research school. The tests were corrected, and grade equivalent scores were obtained for each student. An experimental group of twelve boys and twelve girls was selected from the fourth grade population using a table of random numbers.

Equal numbers of boys and girls who achieved the same grade equivalent scores on the pre-test were then selected and assigned to the control group. The mean grade equivalent score was the same for both the experimental and the control group.

The identification of control group students was not known to the classroom teachers until the time of the post-test. All students received regular classroom instruction in reading during the period of the study. There were no

differences in the instruction received in the classroom by students because of their assignment to the experimental or the control group.

The period of treatment and non-treatment occurred twice a week for one-half hour, over a period of eight weeks, for a total of six and one-half hours.

At the conclusion of the eight weeks the experimental and control groups were post-tested with the reading comprehension sub-test of the California Achievement Test, form 14C. The post-test was administered by the investigator to the experimental and the control group students by class in groups of twelve.

During the experimental sessions there were few absences. In all cases the missed sessions were made-up following the same procedure that was utilized in the original session. Any absences for students in the control group during the time of the study were made-up at the discretion of the classroom teacher.

The Experimental Group

The Listening Comprehension Skills program was presented to the experimental group of students in classroom groups of six students in half-hour sessions, twice a week over a period of eight weeks. The four classroom subsections of the experimental group received the same instruction in listening comprehension skills.

The procedure of presentation for each lesson was the same. The lesson consisted of eight paragraphs, each followed

by alternative answers to be discussed following each paragraph. A sample lesson appears in appendix C. Students were first informed about the objective of the lesson. Each paragraph was read orally by the investigator and the possible answers to the given questions were discussed. The students then selected the best answer for each question.

The students had copies of the passages and were able to follow the script as it was read, as well as to refer back to the passage when analyzing the questions. This manner of presentation minimized the effect of remembering all that was heard in order to answer a question not yet asked. It emphasized listening to and reading the material to get an idea of the overall content and then referring to the passage to discover or confirm the answer to a known question.

The presentation varied slightly for the two review lessons. For both lessons the task was clarified for each paragraph, the paragraph was read to the students, and the question and the four alternative answers to the question were read to the students. However, on the review lessons the students marked their choice of answers for each question on their papers rather than discussing their answers at that time. After all the paragraphs had been presented they were each discussed in turn, and the students had the opportunity to defend their answers, to question each other, and to correct their own answers. A sample review lesson is included in appendix C. The two review lessons were the only lessons where the students had pencils and marked on their papers.

The Control Group

Students in the control group were involved in classroom language arts activities during the period of treatment and non-treatment. The classroom instruction included a variety of activities such as writing, handwriting skills, grammar and lessons in sentence structure, reading and discussion of English textbook material, and group discussion of a general nature. The on-going program planned by the classroom teachers was not modified because of the study. Approximately twenty-eight students were together in the classroom for language arts instruction. Most classroom, non-treatment instruction included small group and total class activities.

Method of Analysis

Test data were first analyzed by an F test of homogeneity of variance to determine whether the scores in one sample were more variable than the scores in the other sample. Data were then analyzed using the t-test to determine the significance of the difference between mean gain scores.

Treatment of Variables

All variables were held constant other than the effect of the specific program of listening skills on the reading comprehension of the experimental group of fourth grade students.

The administration of the pre-test for all students in the fourth grade was supervised by the investigator. The

post-test was administered by the investigator to students from each class who were in the experimental and control groups. The same form of the California Achievement Test was used for the pre- and the post-testing to avoid statistical error due to differences between alternate forms.

Students were selected at random with each student having an equal and independent chance of being selected as a member of the experimental group. The control group was matched to this original random sampling by grade equivalent score, sex, and classroom teacher. The names of the students assigned to the control group were not made known to the classroom teacher until the time of the post-test.

All students received regular classroom instruction in reading during the period of the study. There was no difference within each class as to the treatment of students in the experimental or the control group except during the period of treatment and non-treatment.

The four subsections of the experimental group each received the same instruction in listening comprehension skills. Students who did not attend sessions due to absences were instructed in the missed sessions at a later date.

During the experimental sessions there were few absences. However, one student was absent during two of the sessions, and another four students were absent for one session each. In all cases the missed sessions were made-up following the same procedure that was utilized in the original session.

CHAPTER IV

RESULTS OF RESEARCH

This chapter contains an analysis of the test data pertaining to the completed research. It provides a statistical analysis of the testing data which tested the original hypothesis as well as additional statistical information related to the analysis of the growth made in reading as the result of a specific program of listening comprehension skills.

Analysis of Hypothesis

This study compared the growth made in reading comprehension by an experimental group who received thirteen half-hour sessions of training with the Listening Comprehension Skills program with that of a control group who received no additional help in either listening comprehension or reading comprehension.

At the onset of the project all fourth grade students in the research school were tested with the reading comprehension sub-test of the California Achievement Test, form 14C. The experimental group was selected from the total fourth grade population by means of random sampling using a table of random numbers. The control group was then determined by matching each student in the experimental group with

a student who scored the same grade equivalent score on the pre-test. It was possible to make identical matches between the scores of eighteen students in the experimental group and the scores of students who were then assigned to the control group. The other six students in the experimental group were matched with students in the control group whose scores were as close as possible. The scores of students in the experimental and the control groups both had mean grade equivalent scores of 3.72 on the pre-test. The composition and individual pre-scores of both the experimental and control groups is shown in table 5 in appendix A.

After the period of treatment and non-treatment both the experimental and control groups were again tested with the reading sub-test of the California Achievement Test, form 14C. On this post-test the experimental group had a mean grade equivalent score of 5.13 and the control group had a mean of 4.30. (See table 1).

Before performing a t-test between mean gains of the two groups, an F test of equality of variance was made. A variance of 1.01 was obtained for the experimental group and that of .53 was determined for the control group, resulting in an F ratio of 9.89: not significant.

The total months growth for students in the experimental group was 33.7, and the total months growth for students in the control group was 13.9. The mean growth for students in the experimental group was 1.40, and the mean growth for the control group was 0.58. The standard deviation for

the experimental group was 1.01; and for the control group, 0.72. (See table 1).

TABLE 1

PRE- AND POST-TEST TOTALS
OF EXPERIMENTAL AND CONTROL GROUPS

	Experimental Group	Control Group
Mean Pre-test Grade Equivalent	3.72	3.72
Pre-test Standard Deviation	1.69	1.78
Mean Post-test Grade Equivalent	5.13	4.30
Post-test Standard Deviation	1.01	0.72
Mean Growth	1.40	0.58

Using the t-test to compare the difference between the mean growth made by the experimental and the control groups a t-value of 3.17 was obtained with 23 degrees of freedom. The value was significant at the .01 level of confidence.

This confidence interval allows for the difference of the two means as small as three months or as large as thirteen months. The significance of the results expressed as a two-tailed probability is approximately .002, or two tenths of one percent. This means that if the experimental and control groups were not different following the experimental period, the chance of seeing the difference as shown in the data would be only no more than twice in one thousand.

The point estimate of the difference between the

experimental group post-test mean score of 5.13 and the control group post-test mean score of 4.30 was 0.83. The students in the experimental group read an average of eight months ahead of the students in the control group at the end of the period of treatment and non-treatment.

Since the .01 level of significance had been reached, the null hypothesis was rejected. A significant difference existed between the mean gain in reading comprehension of a randomly selected experimental group of fourth graders who received instruction in a specific listening skills program and that of a matched control group who received no additional training in listening skills.

Analysis of Results by Sex

Although no hypothesis was made concerning growth in reading comprehension being related to the sex of the students, an analysis was made to determine whether the program of listening comprehension skills brought about more significant changes in reading comprehension with one sex than with the other.

Both the experimental and control groups were comprised of equal numbers of boys and girls. The difference in grade equivalent scores between the pre- and the post-test was determined for each student in both the experimental and the control group. The total growth and mean growth were then determined for boys and for girls separately. The composition and individual scores of students in all groups is shown in table 8 in appendix A.

The total months growth for boys in the experimental group was 18.1; and for the girls, 15.6. The total months growth for boys in the control group was 7.5; and for the girls, 6.4. The mean growth for the boys in the experimental group was 1.51; and for the girls, 1.30. The mean growth for boys in the control group was 0.63, and for the girls it was 0.53. (See table 2).

TABLE 2

PRE- AND POST-TEST TOTALS
OF EXPERIMENTAL AND CONTROL GROUPS
DIVIDED BY SEX

		Experimental Group	Control Group
Boys	Mean Pre-test Grade Equivalent	3.69	3.02
	Pre-test Standard Deviation	1.40	1.28
	Mean Post-test Grade Equivalent	5.20	3.64
	Post-test Standard Deviation	1.15	0.81
	Mean Growth	1.51	0.63
Girls	Mean Pre-test Grade Equivalent	3.75	4.42
	Pre-test Standard Deviation	1.11	1.07
	Mean Post-test Grade Equivalent	5.05	4.96
	Post-test Standard Deviation	0.87	0.67
	Mean Growth	1.30	0.53

The standard deviation was 1.15 for the boys in the experimental group, with the standard error of .33. For the girls in the experimental group the standard deviation was 0.87, and the standard error was .25. In the control group

the standard deviation for the boys was 0.81, and the standard error for the boys was 0.23. For the girls in the control group the standard deviation was 0.67, and the standard error was 0.19. (See table 2).

Before making t-ratio tests of significance, F ratio tests of equal variance were made. The F tests for homogeneity of variance were not significant. Therefore, the basic assumption of equal variances was met. (See table 3).

TABLE 3

TESTS OF EQUALITY OF VARIANCES

	F Ratio	Level of Significance
Experimental Boys-Experimental Girls	1.76	N.S.
Control Boys-Control Girls	1.46	N.S.
Experimental Boys-Control Boys	2.06	N.S.
Experimental Girls-Control Girls	1.70	N.S.
All Boys-All Girls	1.58	N.S.

In the experimental group the growth made by the boys as contrasted with that of the girls was found not significant. The results of the analysis yielded a t-ratio of .50 with 22 degrees of freedom.

Growth made by boys as compared to that of the girls

in the control group also was not significant, nor was growth of all boys as compared with growth made by all girls. (See table 4).

In comparing the growth made by boys in the experimental group with boys in the control group, a t-value of 2.18 was obtained with 22 degrees of freedom, resulting in a t-probability of .04. A comparison of growth made by girls in the experimental group with that made by girls in the control group showed a t-value of 2.42 with 22 degrees of freedom and a t-probability of .02. Growth made by girls and that made by boys were both significant at the .05 level. (See table 3).

TABLE 4

POOLED VARIANCE ESTIMATE
COMPARISON OF GROWTH BY SEX

Contrast	t-Value	Degrees Freedom	2-Tail Prob.	Level of Signif.
Experimental Boys-Experimental Girls	0.50	22	0.62	N.S.
Control Boys-Control Girls	0.30	22	0.76	N.S.
Experimental Boys-Control Boys	2.18	22	0.04	.05
Experimental Girls-Control Girls	2.42	22	0.02	.05
All Boys-All Girls	0.54	46	0.59	N.S.

Those students in the experimental group made signi-

ficant growth in reading when compared to the growth of those in the control group, and the comparison is also significant when analyzed according to sex.

Relationship with Other Research

Although no other reported study explored the growth made in reading comprehension through the use of the Listening Comprehension Skills program used in this investigation, the results are basically consistent with a number of studies described in the review of literature.

The significant growth made in reading comprehension as a result of this listening program was consistent with the results of the studies of Marsden (1951), Lewis (1951), Thorn (1968), Valkenburg (1968), Nye (1969), Dewar (1972), Schulwitz (1973), and Livingston (1974). (54:742-43; 47:82-83; 96:11; 84:1692A; 79:1079A; 69:5530A; 82:5496A; 76:6367A).

Studies by Devine (1964), Kellogg (1967), and Allison (1971) also showed growth, although not at a significant level, as a result of various listening programs. (24:119-20; 74:395A: 64:5464A).

The results of this study were in disagreement with research conducted by Merson (1961), Hollingsworth (1964), and Leeds (1969) which showed no, or negative, growth in reading comprehension as a result of specific listening programs. (78:3120; 73:3913; 75:298).

Summary of Results

There was a highly significant difference between the

mean gain in reading comprehension of an experimental group of fourth grade students who received thirteen half-hour sessions of instruction in the Listening Comprehension Skills program published by the Alameda County Schools and the mean gain of a matched control group who received no additional training in listening skills.

Additional analysis of test data showed no significant difference in growth was made between the boys and the girls in either the experimental or the control group. Significant growth was made by both the boys and the girls in the experimental group.

The results of this investigation are consistent with a number of studies which have utilized a variety of listening programs to achieve growth in reading comprehension.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This chapter includes a summary of the research project, conclusions that can be drawn from the data analyzed, and implications for curriculum development and for additional research that can be made as a result of the study.

Summary of Procedure

Improving the reading comprehension of students is an accepted goal of reading instruction. In order to test whether or not training in a specific listening comprehension skills program would help improve the reading comprehension of students the investigator tested the following hypothesis: there is no significant difference between the mean gain in reading comprehension of an experimental group of fourth graders who received training with the Listening Comprehension Skills program and the mean gain made by a matched control group who received no additional training in listening skills.

The reading comprehension sub-test of the California Achievement Test, form 14C, was administered to 134 fourth grade students at one school. From this subject pool the experimental group of twenty-four students was selected using a table of random numbers. The experimental group was

comprised of six students from each of the four classrooms. There was an equal number of boys and girls in the group, and it contained students who scored in each of the four quartiles on the reading comprehension test. The control group was identified by matching students on the basis of grade equivalent scores on the pre-test, including an equal number of boys and girls, and an equal number of students from each of the four classrooms.

The experimental group received instruction with the Listening Comprehension Skills program in half-hour sessions twice a week for a period of eight weeks and a total of six and one-half hours. During that treatment period the students in the control group received regular language arts instruction in their classrooms. At the end of the program both the experimental and control groups were again tested with the reading comprehension sub-test of the California Achievement Test, form 14C.

The difference in grade equivalent scores between the pre- and post-tests was determined for individual students in both the experimental and control groups and compared statistically by a t-test. The results of the t-test were significant at the .01 level. The original null hypothesis that there is no significant difference in the pre- and post-test score means in reading comprehension, measured by the California Achievement Test, of a randomly selected experimental group of fourth graders who received instruction in a specified listening skills program and a matched control group who

received regular classroom language arts instruction, was rejected.

Conclusions

According to the findings of this investigation, the following conclusions may be drawn:

1. The reading comprehension of fourth grade students in this study was improved significantly by instruction in the Listening Comprehension Skills program;

2. No significant differences in gains in reading comprehension scores as the result of the listening skills program were found between girls and boys; and

3. Both the girls and the boys in the experimental group made significant gains in reading comprehension as the result of instruction in the specific listening comprehension skills program.

Implications for Curriculum Development

To the extent that the conclusions of this study may be generalized to a wider school population, they provide some implications for curriculum planning.

The Listening Comprehension Skills program is intended to have a flexible format. The program is available on tape, and the script of those tapes is available in booklet form. Suggestion is made with the materials that it might be desirable for the teacher to consider alternating the reading and the taped voice, and that the success of the program depends in part on the enthusiasm and ingenuity of the teacher

using the program. (110:1). In this study the students had individual copies of the passages that were read to them by the investigator, and they could follow the reading on their own papers if they so wished. It was felt that this helped to hold the attention of the students and possibly helped the students to better relate the process of listening for specific reasons to the process of reading for those same reasons.

Using the program without the tapes allowed for meaningful and valuable discussion of alternate answers. This discussion appeared to be an essential part of the program. The students were able to discuss the relative merits of the four possible answers presented to them. It is recommended that listening programs be used in conjunction with small group discussion rather than by tape alone with no discussion following the items. The informal analysis of why the answers were correct or incorrect appeared to be most valuable to the students.

The results of this particular program seem to indicate that instruction in reading comprehension skills becomes more effective when attention is given to the related skills as presented through listening comprehension. Students seem to learn reading skills more efficiently when these skills are taught in conjunction with their corresponding listening skills.

It is recommended that this program be implemented within the basic structure of the fourth grade classrooms in

the research district and in other districts with similar populations.

The Listening Comprehension Skills program should be analyzed to ascertain that it contains lessons in those areas that are included in the district's objectives for the reading program, in the course of study and in the required proficiencies for reading. Lessons may need to be developed to help present on an oral level any skills which are required in the reading program on the fourth grade level and are not presently included in the Listening Comprehension Skills program.

There is reason to believe that classroom and reading teachers might explore further the possibilities of utilizing the neglected skill of listening to help students achieve better comprehension in reading.

Too few reading and classroom teachers appear to be aware of the need to actively teach listening skills. Hopefully, schools and districts will encourage the implementation of such programs as the Listening Comprehension Skills program and provide inservice to teachers on ways to successfully use listening skills within the classroom to improve students' reading abilities. Teachers should be alert to ways to take advantage of the opportunities occurring daily for such teaching.

Implications for Additional Research

Research is usually conducted to answer specific questions, and yet in analyzing certain problems such studies

usually raise additional questions and hopefully lead to additional research and answers.

This study assessed the growth made as the result of an eight week program in listening. The pre- and post-tests were administered approximately two and one-half months apart. It is recommended that the students assigned to the experimental and control groups in this investigation be re-tested toward the end of the school year to determine the long range retention of growth made as the result of this specific listening program.

Because of the limited number of students in this study it was not possible to analyze growth made by students in each quartile and make comparison of such growth. It is recommended that this study be replicated with a larger population, and that the analysis of the data include a comparison of growth made by students whose pre-test scores fell into each quartile.

A study should investigate the effect of the experimental program within the framework of a total classroom program with the classroom teacher utilizing the program with all members of the class or in small group situations.

It is recommended that this study be replicated with other populations. The present investigation assessed the effects of the listening comprehension program in a single school with one grade level. Replication of the study should be carried out to determine the effects of the experimental program on other populations and on other grade levels.

Research should continue to explore the nature and development of listening ability or abilities and the ways these findings can be implemented within the language arts curriculum.

A study should attempt to determine whether improved reading comprehension scores following a program of instruction in listening are primarily the result of new awareness of the importance of listening and attention to the oral word, or the result of new awareness of the process of applying comprehension skills to the oral and written language.

Research should explore the effects of a listening skills program which uses listening materials that are correlated with the reading and language arts materials that are adopted for use in the school district and which are being used in the classroom.

More studies should explore various teaching methods and materials incorporating listening comprehension skills in classroom language arts programs and in incidental listening situations.

Considering the lack of research available in the area of listening, and especially in the area of listening as it relates to reading comprehension, special efforts should be made to add in any way to the limited body of research available today.

Concluding Statement

This research was conducted with the hope that it would contribute to the fund of knowledge concerning ways by

which students in the elementary school can increase their reading comprehension through increased ability in the area of listening comprehension. The positive results of this study should help encourage more research and experimentation using the skills of listening to aid in the improvement of reading comprehension. It has helped to show that listening ability is important to the development of the related communication skill of reading.

Reading and listening can take place in many classroom situations and for a variety of purposes. The close relationship between the two communication skills should be utilized to the improvement of both skills.

APPENDIXES

Appendix A - Additional Tables 76

Appendix B - Testing Instrument 81

Appendix C - Experimental Program 92

APPENDIX A

ADDITIONAL TABLES

Appendix A contains additional tables showing the composition of the experimental and control groups and containing complete pre- and post-test information.

Table 5 lists the experimental and control groups by room, sex, grade equivalent score on the pre-test, and the percentile ranking of the pre-test on national norms. The letter used to indicate the room of the student was the first initial of the student's homeroom teacher and was used to differentiate the four sub-groups of both experimental and control groups. The student number was used only for identification purposes when reporting scores and information within this study.

Table 6 lists the students in the experimental and control groups according to their ethnic heritage. The classifications used are those reported by the school and district in required ethnic surveys.

Tables 7 and 8 contain complete pre- and post-test information for both the experimental and control groups. Test results show individual student's statistics and the totals which were used in testing the basic hypothesis and in providing information for additional statistical analysis.

TABLE 5

COMPOSITION OF
EXPERIMENTAL AND CONTROL GROUPS

Experimental Group					Control Group				
Number	Room	Sex	Score	%ile	Number	Room	Sex	Score	Diff.
1	M	F	5.0	69	A	M	F	5.0	0
2	M	M	4.7	63	B	M	M	4.7	0
3	M	M	3.7	38	C	R	F	3.5	-.2
4	M	F	3.5	34	D	M	F	3.4	-.1
5	M	F	3.4	31	E	T	M	3.4	0
6	M	M	2.2	10	F	B	M	2.2	0
7	T	M	6.2	85	G	M	F	6.5	+.3
8	T	F	4.7	63	H	T	F	4.7	0
9	T	M	4.0	48	I	T	M	4.0	0
10	T	F	3.4	31	J	T	M	3.4	0
11	T	M	1.3	1	K	R	M	1.3	0
12	T	F	1.3	1	L	T	M	1.3	0
13	B	M	5.2	71	M	B	M	5.3	+.1
14	B	F	5.2	71	N	M	F	5.2	0
15	B	F	4.7	63	O	R	F	4.7	0
16	B	F	3.8	41	P	B	F	3.8	0
17	B	M	3.8	41	Q	R	M	3.8	0
18	B	M	1.5	1	R	R	M	1.5	0
19	R	F	4.7	63	S	M	F	4.8	+.1
20	R	M	4.8	66	T	B	F	4.8	0
21	R	M	3.2	27	U	R	F	3.2	0
22	R	F	3.5	34	V	B	M	3.5	0
23	R	M	3.7	38	W	B	F	3.5	-.2
24	R	F	1.8	5	X	T	M	1.8	0
Total Achievement			89.3		Total Achievement			89.3	
Mean Grade Equiv.			3.72		Mean Grade Equiv.			3.72	
Standard Deviation			1.69		Standard Deviation			1.78	
Standard Error			.35		Standard Error			.36	

TABLE 6

ETHNIC COMPOSITION
OF EXPERIMENTAL AND CONTROL GROUPS

Experimental Group			Control Group		
Student	Ethnic Heritage		Student	Ethnic Heritage	
1	White		A	Asian	
2	Asian		B	Hispanic	
3	Asian		C	White	
4	Filipino		D	Black	
5	Black		E	Hispanic	
6	White		F	White	
7	White		G	White	
8	Asian		H	White	
9	Filipino		I	Filipino	
10	White		J	White	
11	Hispanic		K	Hispanic	
12	White		L	White	
13	White		M	White	
14	White		N	White	
15	White		O	Filipino	
16	Indian		P	White	
17	Black		Q	Black	
18	Hispanic		R	White	
19	White		S	Asian	
20	White		T	White	
21	White		U	Hispanic	
22	White		V	Filipino	
23	Hispanic		W	White	
24	White		X	White	
Totals	3 Asian	12.5%	Totals	2 Asians	8.3%
	2 Filipino	8.3%		3 Filipino	12.5%
	2 Black	8.3%		2 Black	8.3%
	13 White	54.2%		13 White	54.2%
	3 Hispanic	12.5%		4 Hispanic	16.7%
	1 Indian	4.2%			

TABLE 7

PRE- AND POST-TEST SCORES
OF EXPERIMENTAL AND CONTROL GROUPS

Experimental Group					Control Group				
Student	Room	Sex	Pre-Test	Post-Test	Student	Room	Sex	Pre-Test	Post-Test
1	M	F	5.0	6.5	A	M	F	5.0	5.9
2	M	M	4.7	5.0	B	M	M	4.7	3.9
3	M	M	3.7	4.2	C	R	F	3.5	4.4
4	M	F	3.5	4.8	D	M	F	3.4	3.7
5	M	F	3.4	5.7	E	T	M	3.4	4.6
6	M	M	2.2	4.7	F	B	M	2.2	3.5
7	T	M	6.2	6.5	G	M	F	6.5	7.6
8	T	F	4.7	5.9	H	T	F	4.7	5.2
9	T	M	4.0	5.0	I	T	M	4.0	5.5
10	T	F	3.4	5.5	J	T	M	3.4	4.8
11	T	M	1.3	3.5	K	R	M	1.3	1.5
12	T	F	1.3	2.7	L	T	M	1.3	2.5
13	B	M	5.2	7.6	M	B	M	5.3	5.7
14	B	F	5.2	6.2	N	M	F	5.2	6.2
15	B	F	4.7	5.3	O	R	F	4.7	4.3
16	B	F	3.8	5.3	P	B	F	3.8	4.4
17	B	M	3.8	4.6	Q	R	M	3.8	4.3
18	B	M	1.5	4.8	R	R	M	1.5	1.8
19	R	F	4.7	5.0	S	M	F	4.8	5.2
20	R	M	4.8	5.3	T	B	F	4.8	6.2
21	R	M	3.2	6.5	U	R	F	3.2	2.2
22	R	F	3.5	4.4	V	B	M	3.5	2.7
23	R	M	3.7	4.7	W	B	F	3.5	4.2
24	R	F	1.8	5.3	X	T	M	1.8	2.9
Mean Grade Equiv.			3.72	5.13	Mean Grade Equiv.			3.72	4.30
Stand. Deviation			1.69	1.01	Stand. Deviation			1.78	0.72
Standard Error			.35	.21	Standard Error			.36	.15
Mean Growth				1.40	Mean Growth				0.58

TABLE 8

INDIVIDUAL TEST SCORES AND GROWTH
DIVIDED BY SEX

Experimental Group				Control Group			
	Pre-Test	Post-Test	Growth		Pre-Test	Post-Test	Growth
Boys	4.7	5.0	.3	Boys	4.7	3.9	- .8
	3.7	4.2	.5		3.4	4.6	1.2
	2.2	4.7	2.5		2.2	3.5	1.3
	6.2	6.5	.3		4.0	5.5	1.5
	4.0	5.0	1.0		3.4	4.8	1.4
	1.3	3.5	2.2		1.3	1.5	.2
	5.2	7.6	2.4		1.3	2.5	1.2
	3.8	4.6	.8		5.3	5.7	.4
	1.5	4.8	3.3		3.8	4.3	.5
	4.8	5.3	.5		1.5	1.8	.3
	3.2	6.5	3.3		3.5	2.7	- .8
	3.7	4.7	1.0		1.8	2.9	1.1
	Mean Growth		1.51		Mean Growth		.63
	Standard Deviation		1.15		Standard Deviation		.81
	Standard Error		.33		Standard Error		.23
Girls	5.0	6.5	1.5	Girls	5.0	5.9	.9
	3.5	4.8	1.3		3.5	4.4	.9
	3.4	3.7	.3		3.4	3.7	.3
	4.7	5.9	1.2		6.5	7.6	1.1
	3.4	5.5	2.1		4.7	5.2	.5
	1.3	2.7	1.4		5.2	6.2	1.0
	5.2	6.2	1.0		4.7	4.3	- .4
	4.7	5.3	.6		3.8	4.4	.6
	3.8	5.3	1.5		4.8	5.2	.4
	4.7	5.0	.3		4.8	6.2	1.4
	3.5	4.4	.9		3.2	2.2	-1.0
	1.8	5 3	3.5		3.5	4.2	.7
	Mean Growth		1.30		Mean Growth		.53
	Standard Deviation		.87		Standard Deviation		.67
	Standard Error		.25		Standard Error		.92

APPENDIX B

TESTING INSTRUMENT

Appendix B contains a copy of the reading comprehension sub-test of the California Achievement Test, form 14C. This test was utilized both for pre- and post-testing to evaluate the growth made in reading comprehension as the result of instruction in a listening comprehension skills program.

This reading sub-test is a section of the complete California Achievement Test, form 14C, test booklet, published in 1977 by CTB/McGraw-Hill.

82-91

In the original dissertation pages 82 to 91 consisted of a copy of the test instrument utilized in the study. Due to the copyright law the test is not included in this reproduction.

The test used in the study was the reading sub-test, pages R5 to R14, of the California Achievement Test, form 14C, published in 1977 by CTB/McGraw-Hill.

APPENDIX C

EXPERIMENTAL PROGRAM

Appendix C contains two sample lessons from the listening skills program utilized in this investigation. The lessons are from Listening Comprehension Skills: Level B, by Ben L. Lasnik, published by the Alameda County School Department, California.

The Listening Comprehension Skills program consists of eleven basic lessons, each emphasizing a specific comprehension skill, and two review lessons which follow lesson five and lesson eleven. Each basic lesson consists of eight selections and follows the same format. Lesson eleven, which is included here, is concerned with the skill of "Identifying Sentence Ambiguities." The program has one review lesson which follows lesson five and Review Lesson B, which is included here, and follows lesson eleven. Review Lesson B includes one selection from each lesson, six through eleven.

In this investigation the lessons were used in the format shown here. The students had copies and were able to follow along as the teacher read the passages. All responses were verbal except that the students marked their individual responses to the review lessons on their papers, and discussion followed after they had initially completed all of the passages.

LESSON 11 - IDENTIFYING SENTENCE AMBIGUITIES

1. Most people like the flavor of pineapples and eat sliced pineapple sometimes for dessert. Crushed pineapple is sometimes put on top of ice cream or cake. Pineapple leaves are sharp-edged. Another favorite way of serving pineapple is in milk-shakes.

Question: Which sentence does not belong in the story?

a. People like the flavor of pineapple.
b. Pineapple is eaten sliced.
c. Pineapple is used in milk-shakes.
d. Pineapple leaves are sharp-edged.

2. One job Randy did not like was washing windows, but he took out the ladder, filled a bucket with warm water and found a few dry rags. He added a little soap to the water. Randy really liked root beer better than lemonade. After he washed one window, he didn't mind the work at all. He could see how clean it looked and that made him feel good.

Question: Which sentence is out-of-place in the story?

a. Randy found a few dry rags.
b. Randy really liked root beer better.
c. Randy took out the ladder.
d. Randy added soap to the water.

3. What is your favorite television program? Is it a comedy or an adventure series? Is it a cartoon show? Did you know many motion pictures are made in Europe? If you were to write your own television show, what would it be about and who would be in it?

Question? What idea do you think is irrelevant, or does not belong in the story?

(open-ended discussion of possible answers)

4. Because it has mountain tops covered with ice and snow all year around, and because it also has many fiery volcanos, Iceland is called the land of frost and fire. Canada is north of the United States. The weather is not very cold near the shores of Iceland because of the warm current of the Gulf Stream.

Question: Which sentence does not belong in this selection?

a. Mountain tops are covered with ice.
b. Iceland has many fiery volcanos.
c. Canada is north of the United States.
d. The Gulf Stream current warms Iceland.

5. Watching a dog bury a bone is always interesting. He will take the bone to a place where the ground is soft and dig a hole with his front paws. Sometimes dogs eat grass when they feel sick. The dog then takes the bone between his teeth and places it in the hole and covers it carefully.

Question: Wh ch idea is irrelevant and does not belong in the story?

a. The dog finds some soft ground when he wants to bury a bone.
b. The dog digs with his front paws.
c. Sometimes dogs eat grass when they feel sick.
d. The dog covers his bone carefully.

6. Some tropical islands of the Pacific have breadfruit trees growing on them. It is named that because under its rind the fruit looks like fresh bread. The smell of fresh bread in a bakery is very good. The fruit looks something like an avocado. It is green at first, then it turns brown, and when ripe it is yellow. The tropical people cook breadfruit on hot stones and mix the pulp with coconut milk to make a pudding that they think is delicious.

Question: Which idea is irrelevant, or out of place, in the story?

a. Breadfruit is named for its pulp.
b. Breadfruit is cooked over hot stones.
c. Fresh bread aroma is wonderful.
d. Br adfruit looks something like avocados.

7. The air was freezing cold, but Acku was getting ready for the hunt. He checked his spear. He listened to his father's directions. He stood still, ready to strike. He waited. Suddenly, a seal swam near the surface! Acku struck fast and hard with his spear! He cut a hole in the ice. Acku yelled for his father who came running to help.

Question: Which idea do you think was out of order?

(open-ended discussion of possible answers)

8. Peanuts have many uses. Their oil is used in the manufacture of margarine, soap, and salad oil. Peanuts grow best in sandy soil. Peanuts are also used to make peanut butter.

Question: Which idea does not belong in the story?

a. Peanuts are used in many ways.
b. Peanuts grow best in sandy soil.
c. Peanut oil is used in the manufacture of margarine.
d. Peanuts are used to make peanut butter.

REVIEW LESSON B (After Lesson 11)

1. PREDICTING SEQUENCES OF THOUGHT

It was late at night, but Mike and Jack had already untangled the fishing line, and now they were checking their fishing poles. They planned to get some hooks first thing in the morning. Mike piled all their fishing things near the door.

Question: Which sentence tells what you think happened next?

a. Mike and Jack went to get the hooks.
b. Mike and Jack decided to play basketball.
c. Mike and Jack went to sleep.
d. None of these.

2. INFERRING THE SPEAKER'S PURPOSE

You like potato chips, soda pop, chocolate candy and corn chips, don't you? Some foods like those, are the most fun to eat, but they are not best for our bodies. To stay healthy and grow best, we need to eat fresh fruit and vegetables. Can you learn to like them as much as food that isn't as good for you?

Question: What thing does the speaker want you to do?

a. I would drink more milk.
b. I would eat fruit instead of candy.
c. I would not eat so much.
d. None of these.

3. APPLYING STANDARDS TO JUDGE PERSUASION

We <u>do</u> need more members in our club, but we don't need a guy like Clyde. Boy, does he cheat, and besides that, he's a liar and some kind of yellow bird. Who needs guys like that?

Question: Which kind of persuasion was used in this selection?

a. bandwagon device
b. logical argument
c. testimonial device
d. name-calling device

4. INFERRING MAIN IDEA FROM SPECIFICS

Have you thought about the kind of work you want to do when you grow up? Many boys want to be firemen or pilots or truck drivers or scientists. Many girls want to be nurses or secretaries or housewives. It is a good idea to think about what you want to be. That helps you to get the most out of your school years, because you have a good reason to learn things you will need to know.

Question: Which sentence tells the main idea of the selection?

a. Many boys want to be pilots or firemen.
b. Your school years mean more if you know what you want to be.
c. Many girls want to be nurses or housewives.
d. Not everybody knows what he wants to be when he grows up.

5. JUDGING LOGICAL VALIDITY

On the table in front of him, Robert had what might look like a pile of junk. He had some thin strips of wood, some wire and paper, some glue and a pile of rubber bands. There was a book too, with pictures of airplanes, and he was carving what looked like a propeller out of a piece of wood.

Question: Which sentence do you think makes sense after hearing the story?

a. Robert was cleaning out an old desk.
b. Robert liked to read about airplanes.
c. Robert was making a model airplane.
d. Robert was just playing around with some junk.

6. IDENTIFYING SENTENCE AMBIGUITIES

The smallest birds in the world are humming birds. One kind of humming bird is about the size of a bumble bee and its eggs are as small as a pea. The largest birds in the world are ostriches. Turtles lay eggs that have a leathery shell. Some ostriches weigh as much as three hundred pounds and may be eight feet tall, and their eggs weigh five pounds.

Question: Which sentence does not belong in the story?

a. The world's smallest birds are humming birds.
b. Some ostriches weigh three hundred pounds.
c. Turtles lay eggs with leathery shells.
d. An ostrich egg weighs five pounds.

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